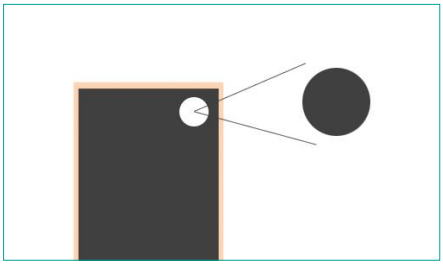
IEST®



ELECTRODE INTEGRATED TESTING EQUIPMENT

EIT1000

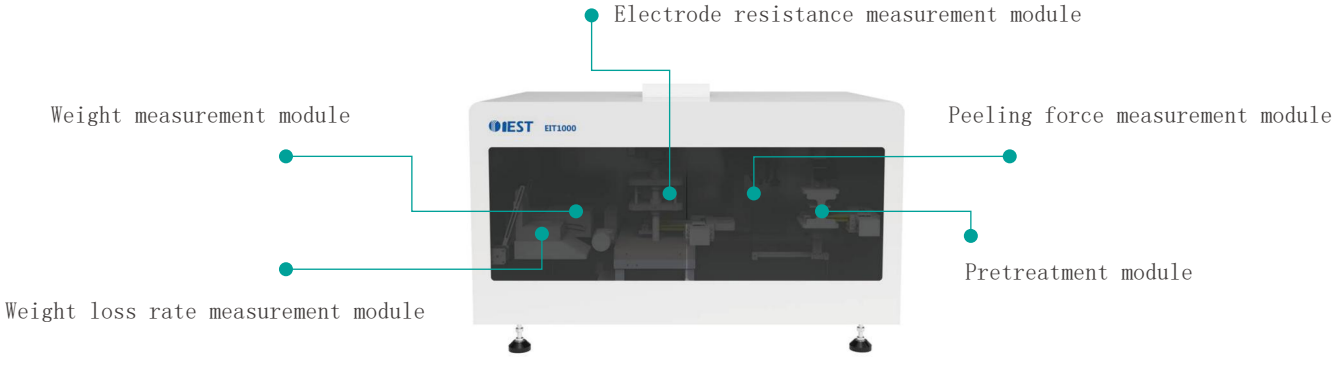
Instruction

Background: Currently, each test item of electrode, i.e., gram weight, weight loss rate and electrode resistance et.al., are independent.. Moreover, gram weight and weight loss rate need to be punched with a punching machine before the measurements.

Problem points: Slow testing efficiency, high labor consumption, low space utilization, data from all testsneed to be integrated and analyzed in the later stage, and individual items need to be individually checked and then uploaded to MES.

Test items	Objective	Test method
Gram weight	The weight after coating can reflect the coating uniformity, judge whether the edge thinning is within the specified range, and can effectively avoid lithium precipitation after the cell is formed	Tablet punching machine+electronic scale; m=M1-M2 (m=coating weight of fixed area, M1=coating+substrate weight, M2=substrate weight)
Weight loss rate	The weight loss rate can reflect whether the coating oven parameters are within the range	Moisture meter; X=(M1-M2)/M1 * 100%(X=solid content, M1=weight of sample before drying, M2=weight of sample after drying)
Electrode resistance	The electrode resistance can better evaluate the performance of the electronic conductive network or the uniformity of the electrode microstructure during the electrode manufacturing process, and help to research and improve the electrode formula and the control parameters of the mixing, coating and rolling process	IEST-electrode resistance meter BER series
Peeling force	The peeling strength between the coating and the collector will affect the cycle performance and internal resistance of the lithium-ion battery	Tensile testing machine

Creative Solutions



Measurement modularization: a certain detection module can be operated independently without mutual interference;

Consistency improvement: it can reduce the difference of personnel in sample preparation and improve the consistency level of each measurement item;

Efficiency improvement: shorten testing time and improve testing frequency;

Optimization of production line layout: adopt integrated scheme to save space;

Data traceability: integrated analysis of measurement data to facilitate subsequent traceability;

Routine check automation:three equipment can be checked at the same time and the routine check results can be uploaded;

Low cost: it can reduce equipment management, maintenance and after-sales costs.

Equipment Parameters

Process	Modular	Parameter	Range
Cold pressing	Electrode resistance (standard configuration)	Resistance measurement resolution	0.1μΩ
		Resistance measurement range	1μΩ~3100Ω
	Electrode plate thickness (optional)	Thickness measurement resolution/accuracy	0.1μm/±1μm
		Thickness measurement range	0~5mm
	Peeling force (standard configuration)	Maximum load	50N
		Force measuring accuracy	±0.2%F.S
		Test speed range	0.01~500mm/min
		Speed accuracy	±0.5%F.S
Coating	Gram weight (standard configuration)	Weight accuracy	0.0001g
	Weight loss rate (also known as water content, standard configuration)	Weight accuracy	0.001g

Note: IEST is committed to continuous improvement of products. IEST reserves the right to alter the specifications of its products without notice.

EIT202302

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